REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-2 and 5-108 are pending, Claims 1, 5, 14, 22, 30, 32, 34, 35, 52, 56, 57, 58, 59, 64, 74-85, 86, 91, 92-94, 104, and 106-108 having been amended and Claims 3-4 and 109-110 cancelled by way of the present amendment. No new matter is added.

In the outstanding Office Action, Claims 56, 74, 92, 104 and 107 were rejected under 35 U.S.C. § 101; Claims 58, 94 and 106 were rejected under 35 U.S.C. § 112, second paragraph; Claims 57, 93 and 108 were objected to as containing informalities; Claims 1-22, 24-51, 53-69, 71-89, 91-99 and 100-108 were rejected as being anticipated by Tanaka (U.S. Patent Publication No. 2002/0108043, hereinafter Tanaka); and Claims 23, 52, 70, 90 and 99 were rejected as being obvious over Tanaka.

In reply, each of Claims 56, 74, 92, 104 and 107 have been amended consistent with 35 U.S.C. § 101. In particular, the computer programs as originally claimed have been amended to be apparatus claims or recording medium claims, which are an article of manufacture as per 35 U.S.C. § 101. It is believed that each of these claims complies with 35 U.S.C. § 101. However if the Examiner disagrees, the Examiner is invited to telephone the undersigned to identify mutually agreeable claim language.

Similarly, Claims 58, 94 and 106 have been amended consistent with 35 U.S.C. § 112, second paragraph. Once again, the Examiner is invited to telephone the undersigned if the Examiner disagrees.

Claims 57, 93 and 108 have been amended as requested, referring to particular structures as being the recording medium. Non-limiting support is found for example at page 22, lines 25-26 and Figure 17, for example. Therefore, no new matter is added.

Amended Claim 1 is directed to a method for processing a digital audio signal. The method includes steps of providing a digital audio signal representing unimpaired audio information. The method includes a step of compressing and encrypting the digital audio signal to produce a first compressed and encrypted audio signal. The audio information is substantially unimpaired compared to that of the digital audio signal. An encrypted second audio signal is produced and then combined with the first audio signal to produce a combined signal. The first audio signal occurs as noise in the combined signal.

The outstanding Office Action (page 4, paragraph 7) points to paragraphs [0048] to [0051] as being relevant to Claim 1. Tanaka is directed toward the prevention of an encryption key used to encrypt an MPEG data stream from being extracted from the MPEG data (paragraphs [0009] and [0140]). Thus, Tanaka requires the key to be reproduced as a way of preventing illegal decryption of the MPEG data [0143]. To this end, Tanaka encodes an audio and video data stream using an MPEG encoder 109. The MPEG data may then be encrypted using an encrypting device 110 and the encrypted MPEG data 186 may be added to the non-encrypted MPEG data 183 using a switch 111 to produce partly encrypted MPEG data 184. However, the partly encrypted MPEG data 184 includes portions of the non-encrypted MPEG data and portions of the encrypted MPEG data which are arranged adjacent to one another in the partly encrypted MPEG data (see Figure 5). Moreover, the partly encrypted MPEG data 184 of Tanaka may include a non-encrypted MPEG data portion 184-1 followed by an encrypted MPEG data portion 184-2 so that portions of the partly encrypted MPEG data are encrypted while other portions are unencrypted.

Furthermore, in Tanaka, an encryption period corresponding to the encrypted MPEG data is divided into sub-periods and then the MPEG data in each sub-period is encrypted using watermark data of another encryption period [0103]. In this way, Tanaka prevents illegal decryption of the MPEG data without access to the key used to encrypt the MPEG

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data. However, as a consequence, it is impossible to reproduce the MPEG data without the key used to encrypt the encrypted portions of the partly encrypted MPEG data.

Comparing amended Claim 1 with Tanaka, amended Claim 1 requires a first audio signal to occur as noise in the combined signal. The combined signal includes the compressed and encrypted audio signal and an unencrypted second audio signal in which the first signal is embedded as noise in the second signal. This is neither taught by nor suggested by Tanaka. Tanaka is silent as to the embedding of a first audio signal as noise in the combined signal. Furthermore, in Tanaka, the partly encrypted MPEG data (i.e., the output MPEG data) which, for example, is recorded to a storage medium, is simply not producible without the encryption key. Modifying Tanaka to avoid using the key would defeat its objective of preventing illegal decryption. Because Tanaka does not disclose these features in amended Claim 1 it is respectfully submitted that amended Claim 1 patentably defines over Tanaka. Although of differing statutory class and/or scope, it is respectfully submitted that independent Claims 59, 74, 86 and 91 also patentably define over Tanaka for substantially the same reasons discussed above with regard to amended Claim 1.

As a second point, because the first audio signal occurs as noise in the combined signal, as claimed, the quality of the audio is impaired. However, a user may still listen to an audition signal (for example) but the user is prevented access to the unimpaired audio. As a consequence, a user may listen to a trial audio track while helping prevent copying of the track because the audio quality of the audition track is low.

An advantage with this approach is that if the user decides that the user does not wish to purchase the audio content, the compressed and encrypted first audio signal may easily be separated from the second signal. The separated first signal may then be decrypted and decompressed so as to allow the user access to the unimpaired audio (see e.g., page 9, lines 10-16). Tanaka neither teaches nor suggests an equivalent operation, nor a similar advantage.

In Tanaka, a presence of the encrypted MPEG data portion in the partly encrypted MPEG data prevents the partly encrypted MPEG data from being reproduced without the encryption key. Therefore, Tanaka cannot be used to allow an audition signal to be reproduced as provided by Applicants. This is yet another reason why independent Claims 1, 59, 74, 86 and 91 patentably define over Tanaka.

With regard to Claim 97, the Office asserts Tanaka in paragraphs [0102]-[0103] as disclosing relevant features to the elements of Claim 97. However, Tanaka does not disclose replacing least significant bits (LSBs) of a second signal with bits of a first signal. Moreover, Tanaka does not disclose that the first signal occurs as noise in the second signal. As discussed above, the partly encrypted MPEG data is not reproducible without the encryption key and therefore if the encrypted MPEG data of Tanaka were to occur as noise in the data stream, the partly encrypted MPEG data would still not be able to be reproduced without the key. Accordingly, the encrypted MPEG data would not be heard as noise in the partly encrypted MPEG data because the partly encrypted MPEG data of Tanaka cannot be reproduced without the key. Once decrypted for reproduction, the MPEG data of Tanaka no longer has encrypted portions. It is believed that the Office interprets this aspect as being equivalent to the first signal of the claim.

Also, in reference to Figure 8 of Tanaka, generation management information is combined with encrypted key bits and non-encryption periods and encryption periods. It is respectfully submitted that this does not correspond with the least significant bits of the second signal with bits of the first signal. Thus, it is believed that Claim 97 also patentably defines over Tanaka for this additional reason.

With regard to Claim 98, the Office Action expressly refers to Figure 8 and the discussion above regarding Figure 8 is believed to be also relevant to Claim 98. However, Tanaka does not disclose selecting groups of M samples and distributing over the M samples

of each group corresponding sets of M samples of the first signal where the ratio M/N is an integer fraction. Instead Tanaka merely describes how the encryption key may be distributed through encryption periods together with other bits of data. Tanaka does not describe or suggest selecting groups of M samples and distributing the M samples of each group corresponding to sets of M samples of the first signal as claimed.

With regard to Claim 102, it is respectfully submitted that Tanaka does not disclose embedding the first signal in auxiliary data space of the second signal, as claimed. In Tanaka, the encrypted MPEG data is merely juxtaposed with the non-encrypted MPEG data in the partly encrypted MPEG data. Therefore, within the partly encrypted MPEG data stream of Tanaka, the non-encrypted MPEG data is next to the encrypted MPEG data rather than being embedded therein. Furthermore, Tanaka does not describe an auxiliary data space in the second signal as claimed. As such it is believed that Tanaka does not disclose or suggest embedding at least part of a first signal in an auxiliary data space of the second signal.

In view of the foregoing, it is respectfully submitted that Claims 1, 2, 5-22, 24-51, 53-69, 71-89, 91-99 and 100-108 patentably define over Tanaka since Tanaka does not disclose all of the elements of these claims, as amended.

As each of Claims 23, 52, 70, 90 and 99 depend from one of the independent claims discussed above, it is respectfully submitted that these claims also patentably define over Tanaka for at least the same reasons discussed above with regard to their respective independent claims.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention as presently claimed is definite, defining of statutory subject matter, and patentably distinguishing over the asserted prior art.

The present application is therefore believed to be in condition for formal allowance and an

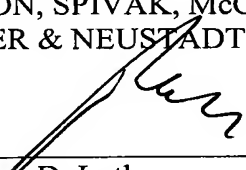early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

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